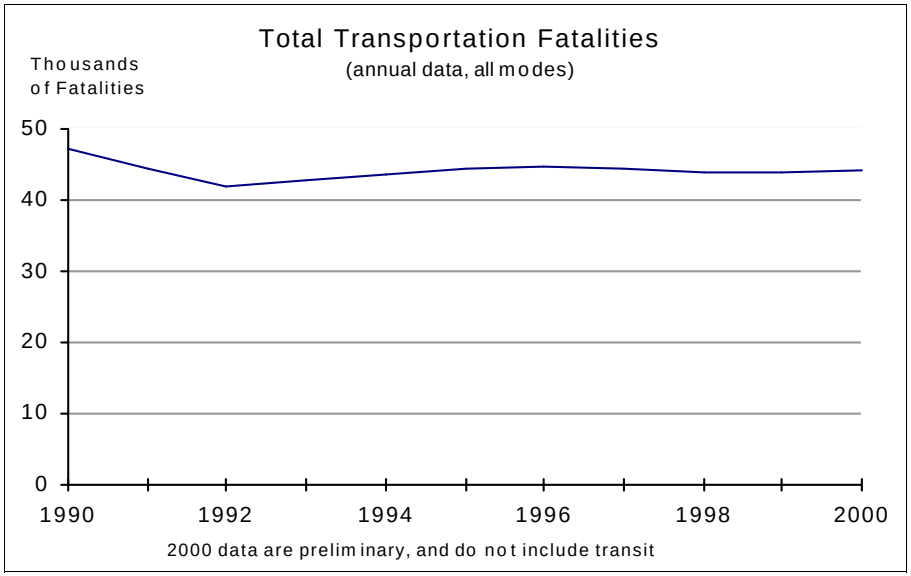
# Safety

# ANNUAL TRANSPORTATION FATALITIES: ALL MODES




| Transportation Fatalities | 1999 | 2000* |
|---|---|---|
| Total | 43,866 | 44,041 |
| *Percent change from previous year* | *-0.02* | *0.40* |

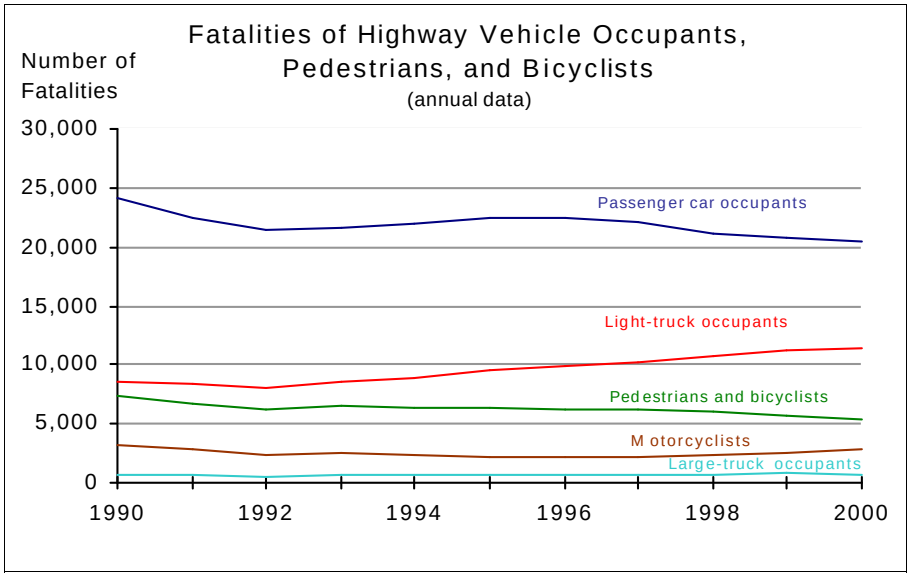
* Preliminary estimate, does not include transit.

SOURCES: Data compiled from various government agencies as cited in the U.S. Department of Transportation (USDOT), *Performance Plan FY 2002* and *Report FY 2000*, April 2001, available at: http://ostpxweb.dot.gov/budget/perfplan02/contents.html

Fatalities represent the most severe safety consequence for the transportation system. According to preliminary estimates, in 2000 there were 44,041 transportation-related fatalities, compared to 47,348 in 1990.

See U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999*, pp. 273-280, for detailed discussion of modal fatality data.

## MOTOR VEHICLE-RELATED HIGHWAY FATALITIES




Highway crashes caused 94 percent of all transportation-related fatalities in 2000. They were the leading cause of death of people ages 5 through 29 (DOT Performance Plan FY 2002 and Performance Report FY 2000).

NOTES: Large trucks — trucks over 10,000 pounds gross vehicle weight rating, including single unit trucks and truck tractors.

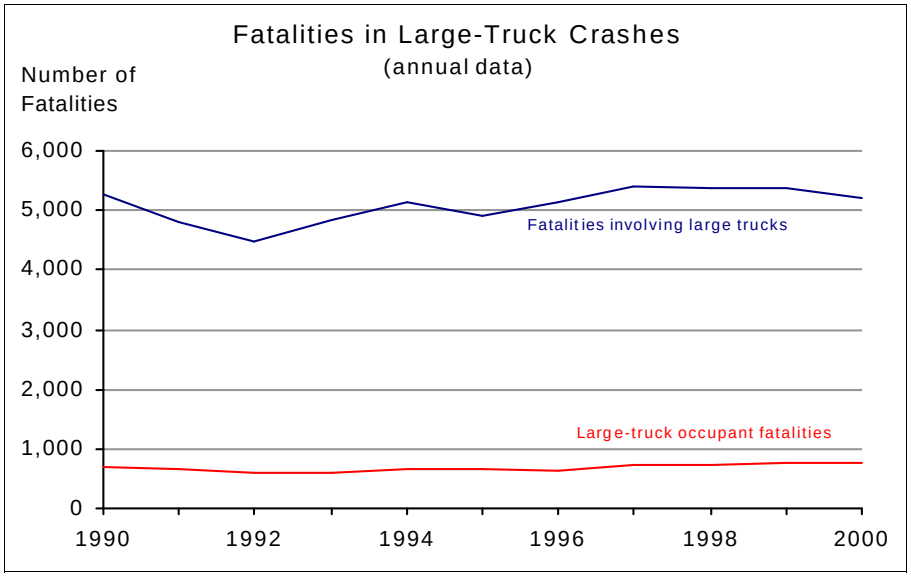
Light trucks — trucks of 10,000 pounds gross vehicle weight rating or less, including pick-ups, vans, truck-based station wagons, and utility vehicles. The number of light trucks has increased greatly since 1990, affecting light truck occupant fatality numbers.

See U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999*, pp. 273-280, for detailed discussion of modal fatality data.

| Fatalities by Type | 1999 | 2000 |
|---|---|---|
| Highway total | 41,611 | 41,800 |
| *Percent change from previous year* | *0.27* | *0.45* |
| Passenger car occupants | 20,862 | 20,492 |
| *Percent change from previous year* | *-1.57* | *-1.77* |
| Light-truck occupants | 11,243 | 11,439 |
| *Percent change from previous year* | *5.03* | *1.74* |
| Pedestrians | 4,939 | 4,739 |
| *Percent change from previous year* | *-5.53* | *-4.05* |
| Motorcyclists | 2,483 | 2,862 |
| *Percent change from previous year* | *8.24* | *15.26* |
| Large-truck occupants | 758 | 746 |
| *Percent change from previous year* | *2.16* | *-1.58* |
| Bicyclists | 754 | 690 |
| *Percent change from previous year* | *-0.79* | *-8.49* |
| Other highway | 596 | 857 |
| *Percent change from previous year* | *10.37* | *43.80* |

SOURCES: U.S. Department of Transportation, National Highway Traffic Safety Administration, 2000 Traffic Safety Facts, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/ncsa/tsf2000/2000ovrfacts.pdf

# FATALITIES IN LARGE-TRUCK CRASHES



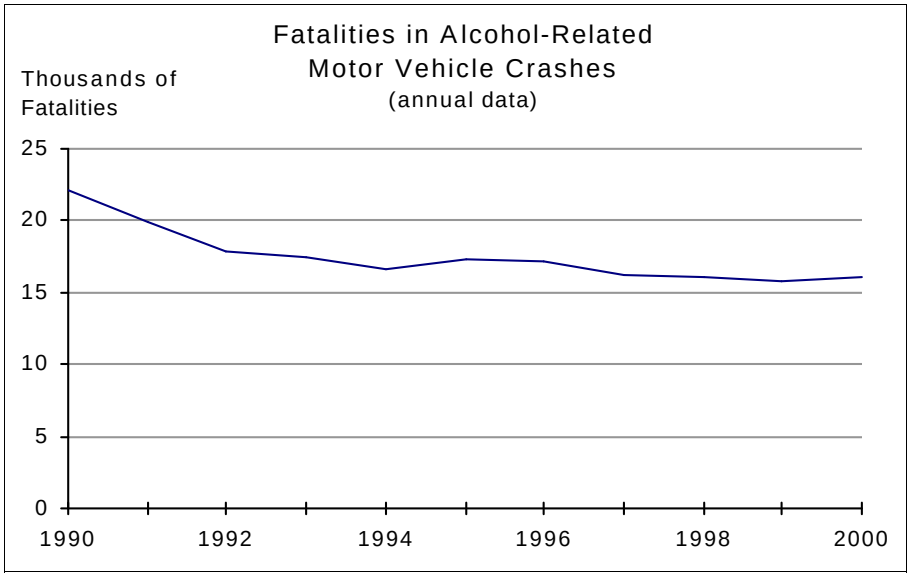

Trucks represent 4 percent of registered highway vehicles, about 7 percent of vehicle miles of travel, and 8 percent of vehicles in fatal crashes. Occupants of other vehicles or people outside the truck account for 85% of total fatalities involving large trucks for 2000.

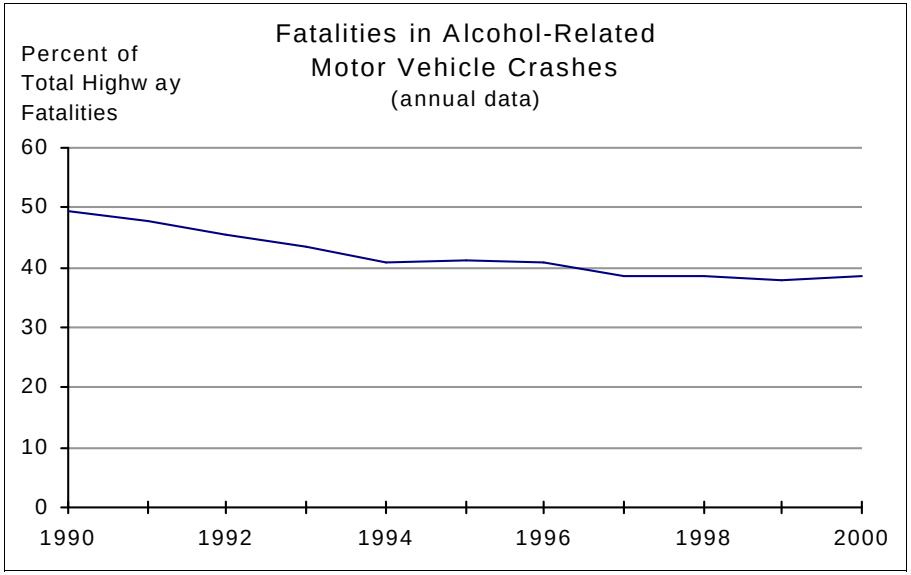
| Large-Truck Crashes | 1999 | 2000 |
|---|---|---|
| Fatalities involving large trucks | 5,362 | 5,211 |
| *Percent change from previous year* | *-0.22* | *-2.82* |
| Large-truck occupant fatalities | 759 | 749 |
| *Percent change from previous year* | *2.29* | *-1.32* |

NOTE: Large trucks are over 10,000 pounds gross vehicle weight rating.

SOURCES: U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Analysis Division, *Large Truck Crash Profile: The 1999 National Picture*, available at http://www.fmcsa.dot.gov/factsfigs/mchsstats.htm, and U.S. Department of Transportation, National Highway Traffic Safety Administration, 2000 Traffic Safety Facts, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/ncsa/tsf2000/2000ovrfacts.pdf

# ALCOHOL-RELATED HIGHWAY FATALITIES



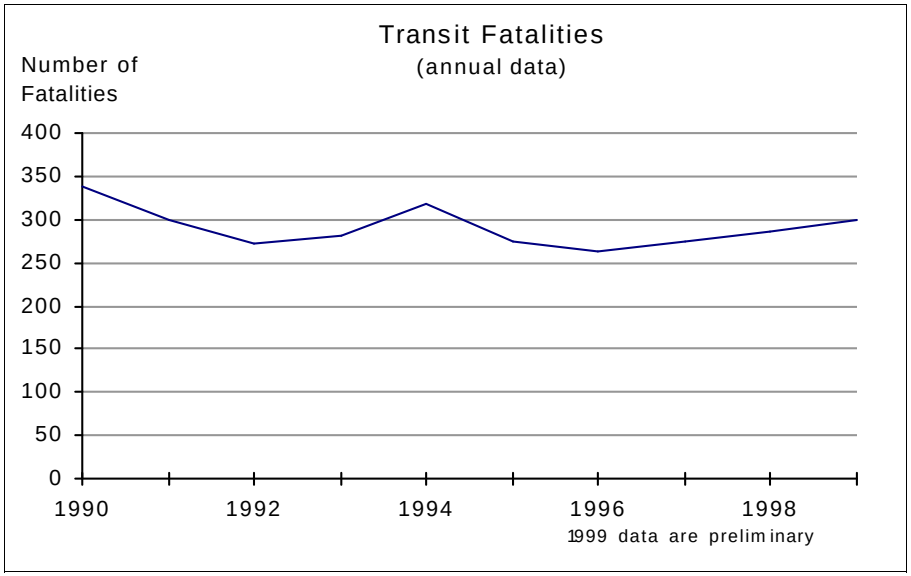

| Alcohol-Related Highway Fatalities | 1999 | 2000 |
|---|---|---|
| Total | 15,786 | 16,068 |
| *Percent change from previous year* | *-1.46* | *1.79* |

SOURCE: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *Traffic Safety Facts 1998*, DOT HS 808 983 (Washington, DC: October 1999), table 13, and personal communication, Sept. 11, 2000. 2000 data: National Highway Traffic Safety Administration, National Center for Statistics and Analysis, *2000 Early Assessment.*

Alcohol is the single largest cause of fatal crashes. Alcohol-related fatalities accounted for nearly 38 percent of all highway fatalities in 2000.

Fatalities include those arising from motor vehicle related crashes in which the driver and/or a fatally injured pedestrian or other nonmotorist had a measured or estimated blood alcohol content of 0.01 grams per deciliter or greater.

# TRANSIT FATALITIES




| Transit Fatalities | 1998 | 1999 |
|---|---|---|
| Transit total | 286 | 299 |
| *Percent change from previous year* | *4.00* | *4.55* |

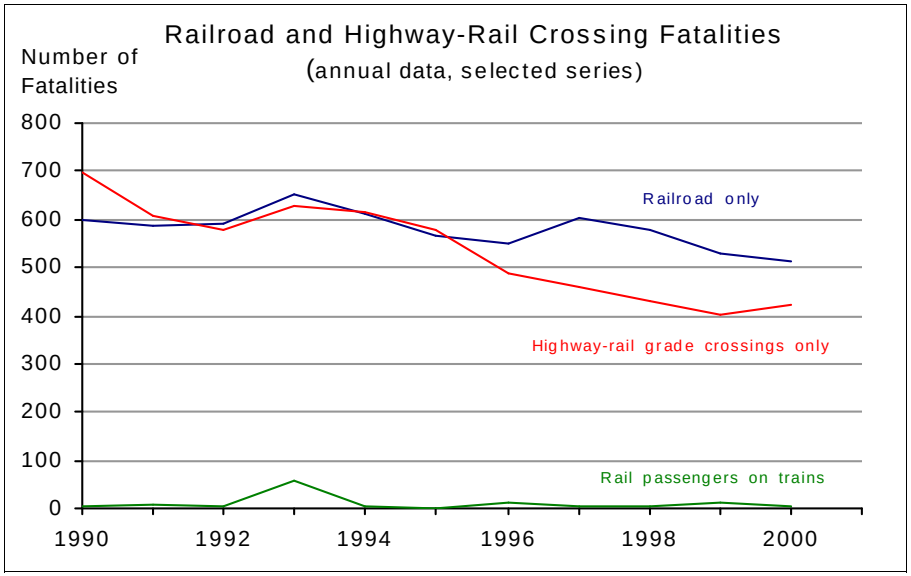
Transit fatalities include those resulting from all reportable incidents, not just from accidents involving transit vehicles.

Transit includes transit bus, light and heavy transit rail, commuter rail, paratransit, and other transit categories. Transit fatalities are transit-caused deaths confirmed within 30 days of a transit incident. The fatality numbers cited here do not include suicides.

SOURCE: U.S. Department of Transportation, Federal Transit Administration, State Safety Oversight Program, Annual Report for 1999, available at http://transit-safety.volpe.dot.gov

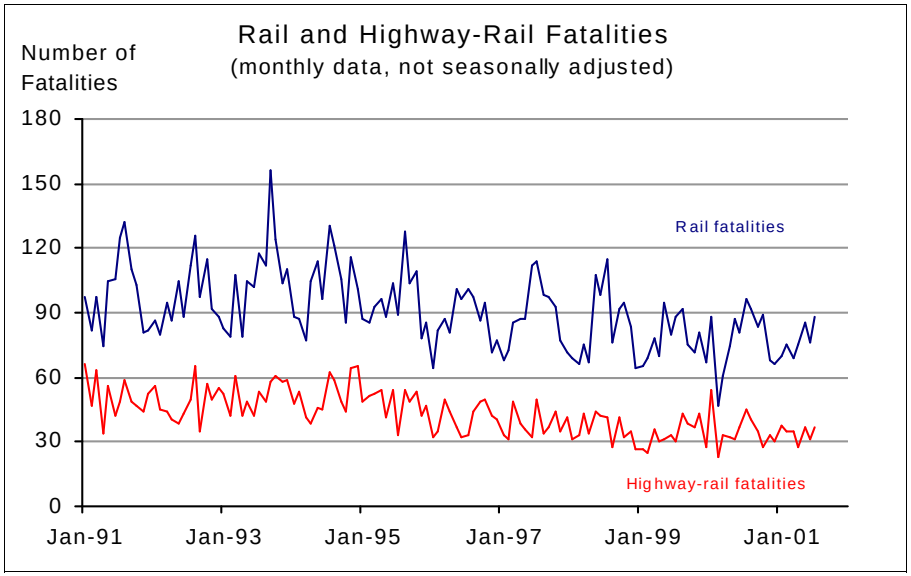
SOURCES: Data compiled from various government agencies as cited in the U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics, *National Transportation Statistics 1999*, table 3-1, available at: http://www.bts.gov/ntda/nts/nts.html, and the U.S. DOT, *1999 Performance Report/ 2001 Performance Plan*

# RAILROAD AND HIGHWAY-RAIL CROSSING FATALITIES




| Rail-Related Fatalities | 1999 | 2000 |
|---|---|---|
| Railroad only total | 530 | 512 |
| *Percent change from previous year* | *-8.15* | *-3.40* |
| Grade crossing total | 402 | 425 |
| *Percent change from previous year* | *-6.73* | *5.72* |
| Passengers on trains | 14 | 4 |
| *Percent change from previous year* | *250.00* | *-71.43* |

NOTE: "Rail passengers on trains" includes fatalities in both highway-rail grade crossings and non-grade crossing accidents. "Railroad only total" includes passengers on trains killed in nongrade crossing accidents. It also includes railroad workers (including contractors), other nontrespassers, and trespassers killed in train accidents, whether on or off the train, except at grade crossings. Data include both freight and passenger railroad operations.

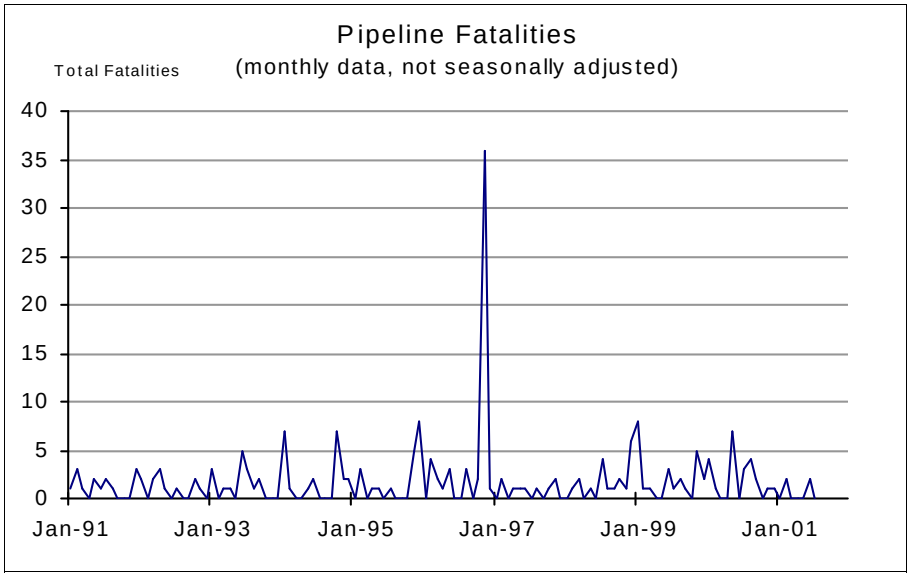



| Railroad | Jul-00 | Jul-01 |
|---|---|---|
| Rail Fatalities | 96 | 88 |
| *Percent change from same month previous year* | *9.09* | *-8.33* |
| Highway-Rail Fatalities | 45 | 37 |
| *Percent change from same month previous year* | *50.00* | *-17.78* |

SOURCE: U.S. Department of Transportation, Federal Railroad Administration, Office of Safety, available at: http://safetydata.fra.dot.gov/officeofsafety

In most years, the overwhelming majority of people killed in train accidents are outside the train. Many are occupants of highway vehicles, pedestrians, or bystanders at highway-rail grade crossings. Railroad workers and others on railroad property (including trespassers) account for most other rail-related fatalities.

# HAZARDOUS LIQUID AND NATURAL GAS PIPELINE FATALITIES




Note: Spike in graph represents leak and explosion of gas in a residential and shopping district in San Juan, Puerto Rico, 11/21/96.

Pipeline failures are low-probability events that can result in fatalities, injuries, and property damage. Over time, gas pipeline fatalities tend to outnumber those involving hazardous liquid (e.g., petroleum) pipelines. Outside force damage (e.g., damage to a pipeline during excavation for construction) is the leading cause of pipeline failures, followed by corrosion (DOT Performance Plan FY 2001).

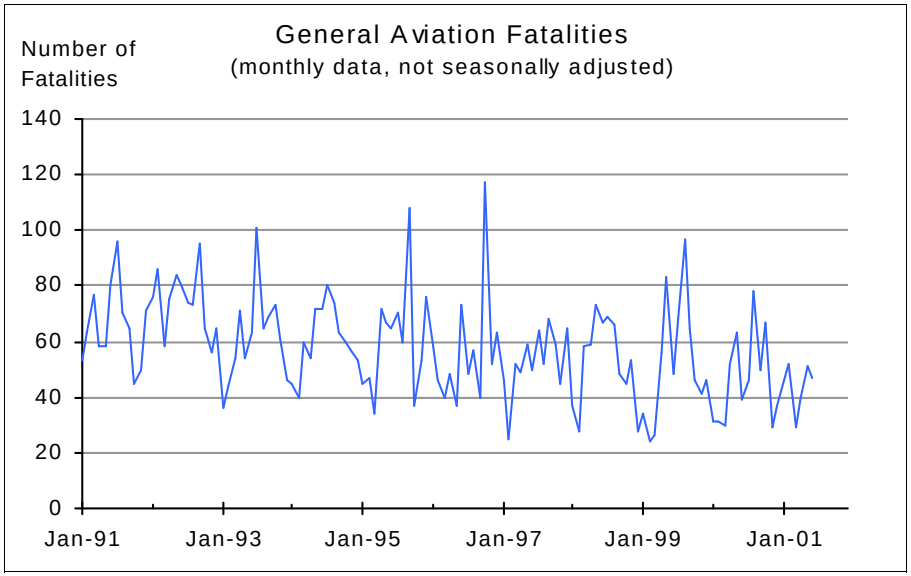
| Pipeline Fatalities | Jul-00 | Jul-01 |
|---|---|---|
| Total | 3 | 0 |
| *Percent change from same month previous year* | *200.00* | *0* |

NOTES: The current value is compared to the value from the same period in the previous year to account for seasonality.

All 2001 data are preliminary, and subject to change as incidents are reported.

SOURCE: U.S. Department of Transportation, Office of Pipeline Safety, Research and Special Programs Administration, Online Library Accident and Incident Data as of Sept. 13, 2001, available at http://ops.dot.gov/IA98.htm

# GENERAL AVIATION FATALITIES




General aviation fatalities comprise the majority of aviation fatalities in most years.

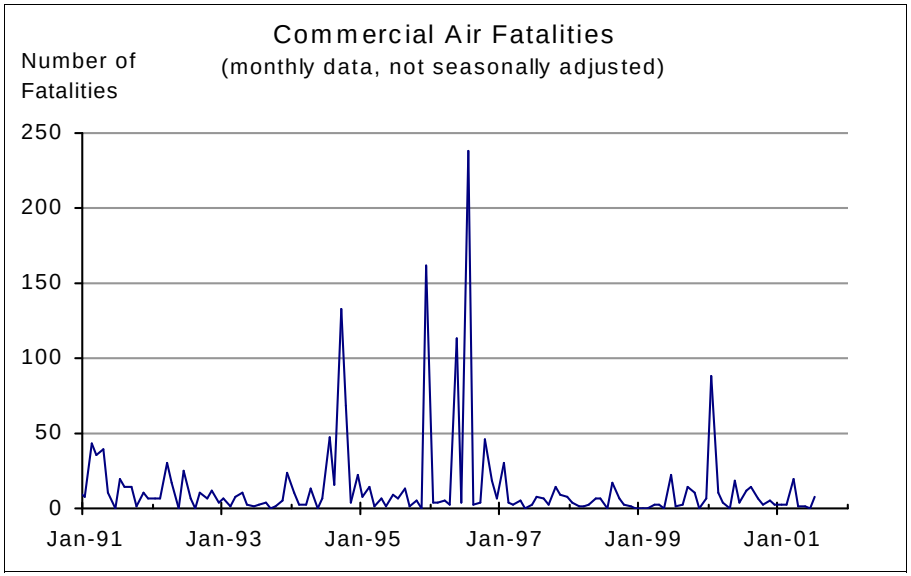
| General Aviation | Aug-00 | Aug-01 |
|---|---|---|
| Fatalities | 78 | 62 |
| *Percent change from same month previous year* | *-19.59* | *-20.51* |

NOTE: The current value is compared to the value from the same period in the previous year to account for seasonality.

General Aviation – Movements of aircraft and helicopters belonging to individuals, companies not primarily in the aviation business, and flying clubs. Services provided by general aviation aircraft include firefighting, law enforcement, news coverage, and corporate in-house transportation.

SOURCE: National Transportation Safety Board, Office of Aviation Safety, available at: http://www.ntsb.gov/aviation/curr_mo.txt

# COMMERCIAL AVIATION FATALITIES



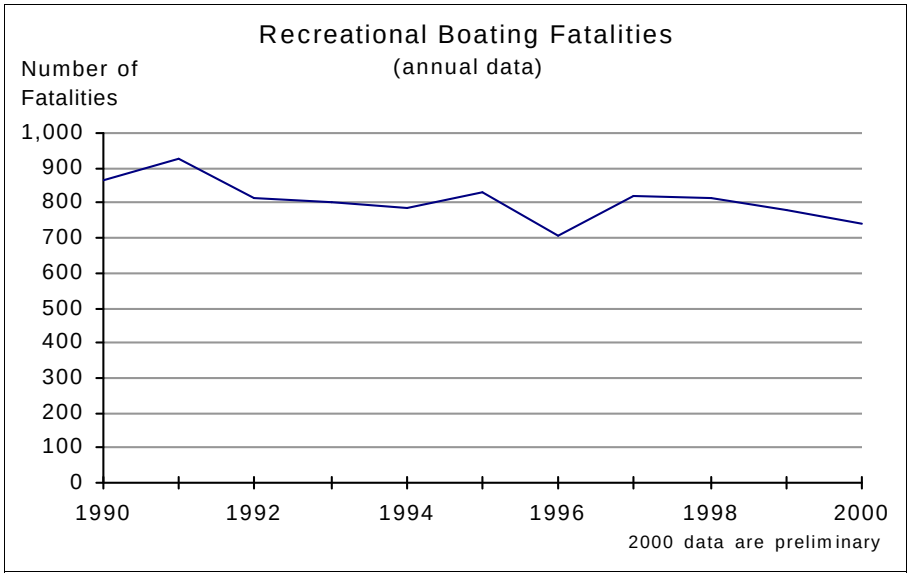

Commercial air fatalities include those arising from accidents of planes providing passenger and/or cargo services to the public, including large air carriers, commuter air, and air taxi. Commercial air includes scheduled and nonscheduled service by air carriers operating under 14 Code of Federal Regulations (CFR) 121 and 14 CFR 135.

| Commercial Air | Aug-00 | Aug-01 |
|---|---|---|
| Fatalities | 15 | 18 |
| *Percent change from same month previous year* | *650.00* | *20.00* |

NOTE: The current value is compared to the value from the same period in the previous year to account for seasonality.

SOURCE: National Transportation Safety Board, Office of Aviation Safety, available at: http://www.ntsb.gov/aviation/curr_mo.txt

# RECREATIONAL BOATING FATALITIES




Most fatalities, injuries, and accidents in water transportation involve recreational boating. Most recreational boating is discretionary, and the purpose of trips generally is to spend time on the water. The main cause of recreational boating accidents is human error.

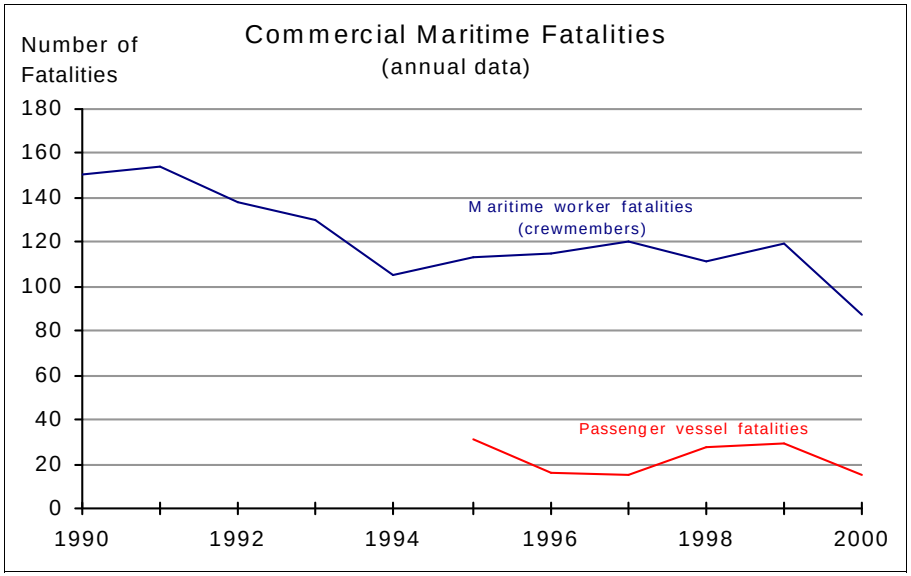
| Recreational Boating | 1999 | 2000* |
|---|---|---|
| Fatalities | 778 | 742 |
| *Percent change from previous year* | *-4.63* | -4.54 |

*Preliminary estimate

NOTE: Recreational boats include motorboats, personal watercraft (e.g., jet skis), sailboats, houseboats, rowboats, canoes, kayaks, and some other kinds of watercraft.

SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Boating Safety, *Boating Statistics* (Washington, DC: Annual issues).

# FATALITIES IN COMMERCIAL MARITIME TRANSPORTATION




| Maritime Fatalities | 1999 | 2000* |
|---|---|---|
| Maritime worker fatalities | 119 | 87 |
| *Percent change from previous year* | *7.21* | *-26.89* |
| Passenger vessel fatalities | 29 | 15 |
| *Percent change from previous year* | *3.57* | *-48.28* |

*Preliminary estimate

NOTE: Crew member fatalities involve a death or disappearance of a crew member or employee aboard a U.S. vessel.

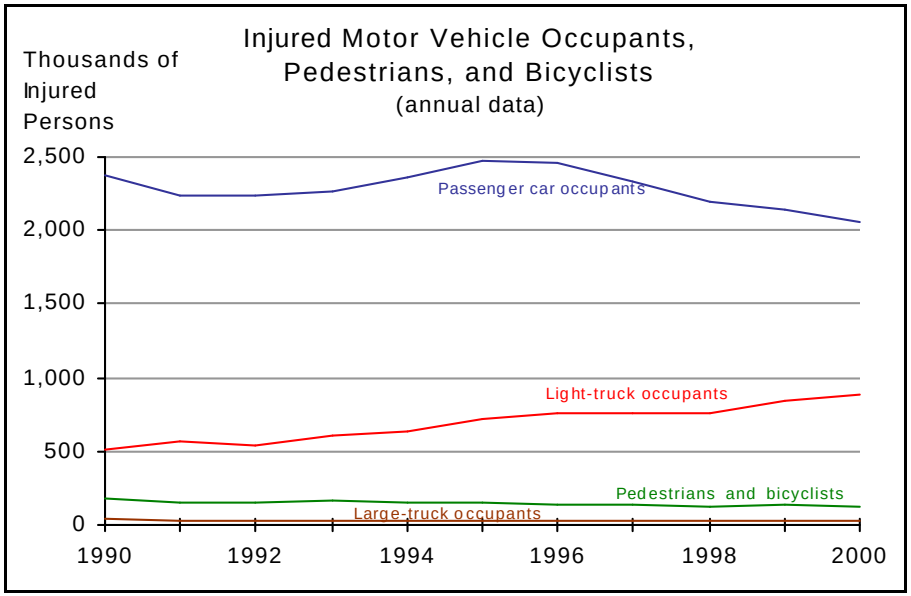
SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Office of Plans, Policy and Evaluation, Personal Communication, and U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999*, table 3-1, available at: http://www.bts.gov/ntda/nts/nts.html.

Maritime worker fatalities include crewmembers in the maritime industry aboard U.S. vessels/platforms. The data do not include fatalities on recreational boats or foreign vessels, or fatalities arising from intentional and natural causes. The largest percentage of maritime worker fatalities occur in commercial fishing.

Passenger vessel fatalities include death or disappearance of passengers aboard cruise ships, gambling ships, charter fishing boats, sightseeing boats, and passenger ferries. Deaths of maritime workers on passenger vessels are counted under maritime worker fatalities. Over 90 million people are carried aboard passenger vessels each year.

NOTE: Passenger vessel fatality measure has undergone substantial revision. Including data before 1995 would result in misleading comparisons.

# INJURED MOTOR VEHICLE OCCUPANTS, PEDESTRIANS, AND BICYCLISTS




The vast majority of transportation injuries involve motor vehicles. The number of light trucks has increased greatly since 1990, affecting light truck occupant injury numbers.

| Injured Persons by Mode | 1999 | 2000 |
|---|---|---|
| Highway total | 3,236,000 | 3,190,000 |
| *Percent change from previous year* | *1.38* | *-0.53* |
| Passenger car occupants | 2,138,000 | 2,052,000 |
| *Percent change from previous year* | *-2.86* | *-3.27* |
| Light-truck occupants | 847,000 | 887,000 |
| *Percent change from previous year* | *11.01* | *5.43* |
| Pedestrians and bicyclists | 136,000 | 129,000 |
| *Percent change from previous year* | *11.48* | *-5.15* |
| Motorcyclists | 50,000 | 58,000 |
| *Percent change from previous year* | *2.04* | *16.00* |
| Large-truck occupants | 33,000 | 31,000 |
| *Percent change from previous year* | *13.79* | *-9.09* |
| Bus occupants | 22,000 | 18,000 |
| *Percent change from previous year* | *37.50* | *-18.18* |

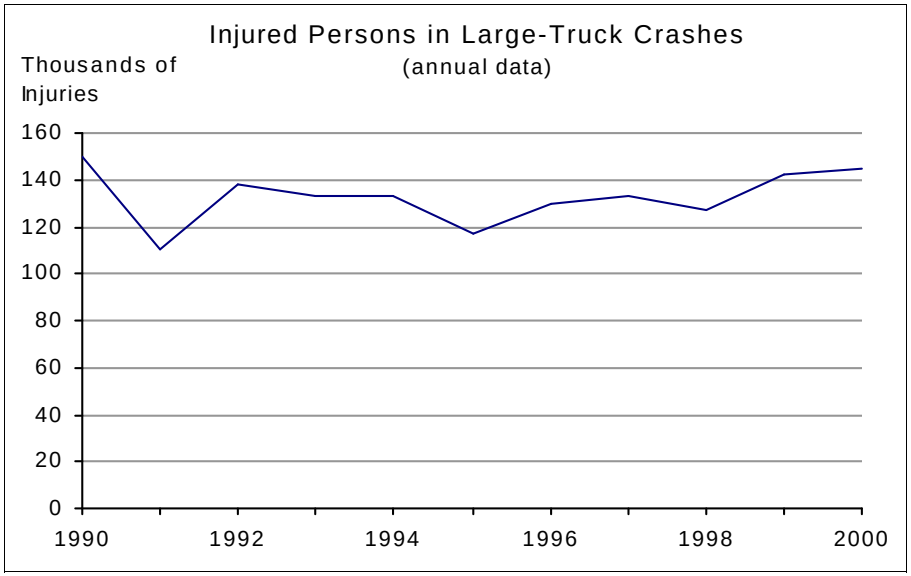
NOTES: National estimates of highway injuries are sampled and subject to sampling errors. Highway table includes categories not displayed in graph.

Light trucks — trucks of 10,000 pounds gross vehicle weight rating or less, including pickups, vans, truck-based station wagons, and utility vehicles.

See U.S. Department of Transportation, Bureau of Transportation Statistics, pp. 273-280, *National Transportation Statistics 1999* for detailed discussion of modal injury data.

SOURCE: Data compiled from various government agencies, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1999*, table 3-2, available at: http://www.bts.gov/ntda/nts/nts.html, and U.S. Department of Transportation, National Highway Traffic Safety Administration, 2000 Traffic Safety Facts, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/ncsa/tsf2000/2000ovrfacts.pdf

# INJURED PERSONS IN LARGE-TRUCK CRASHES



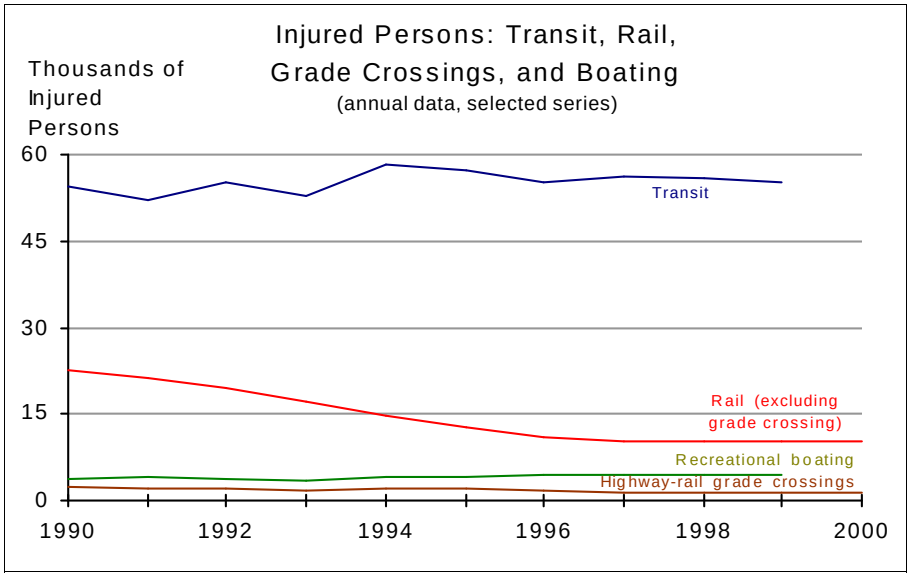

For 2000, preliminary estimates indicate that 79 percent of the total injuries involving large-truck crashes were occupants of other vehicles or outside the large truck.

| Large-Truck Crashes | 1999 | 2000 |
|---|---|---|
| Injured persons involving large trucks | 142,000 | 140,000 |
| *Percent change from previous year* | *11.81* | *-1.41* |

NOTE: Large trucks are trucks over 10,000 pounds gross vehicle weight rating.

SOURCES: U.S. Department of Transportation, Federal Motor Carrier Safety Administration, Analysis Division, *Large Truck Crash Profile: The 1999 National Picture*, available at http://www.fmcsa.dot.gov/factsfigs/mchsstats.htm, and U.S. Department of Transportation, National Highway Traffic Safety Administration, 2000 Traffic Safety Facts, available at http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/ncsa/tsf2000/2000ovrfacts.pdf

# INJURED PERSONS: TRANSIT, RAIL, GRADE CROSSINGS, AND BOATING




Since 1990, rail injuries have declined by 55 percent.

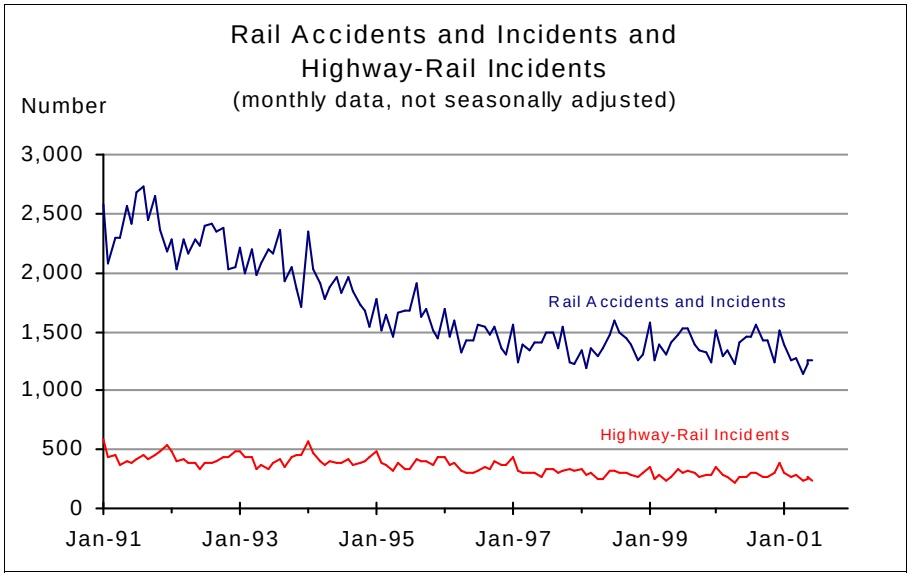
| Injured Persons by Mode | 1999 | 2000 |
|---|---|---|
| Transit* | 55,990 | 55,325 |
| *Percent change from previous year* | *-0.25* | *-1.19* |
| Railroad | 10,304 | 10,424 |
| *Percent change from previous year* | *1.46* | *1.16* |
| Recreational Boating* | 4,612 | 4,315 |
| *Percent change from previous year* | *-1.25* | *6.44* |
| Highway-rail Grade Crossing | 1,396 | 1,219 |
| *Percent change from previous year* | *7.14* | *-1.68* |

* Data are for 1999 and 1998.

See U.S. Department of Transportation, Bureau of Transportation Statistics, pp. 273-280, *National Transportation Statistics 1999* for detailed discussion of modal injury data.

SOURCE: Data compiled from various government agencies, as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 2000*, table 2-2, available at: http://www.bts.gov/btsprod/nts and U.S. Department of Transportation, Federal Railroad Administration, Office of Safety, available at http://safetydata.fra.dot.gov/officeofsafety

## RAIL ACCIDENTS AND INCIDENTS




| Railroad | Jul-00 | Jul-01 |
|---|---|---|
| Rail accidents and incidents | 1,450 | 1,264 |
| *Percent change from same month previous year* | *-5.17* | *-12.83* |
| Highway-Rail Incidents | 299 | 239 |
| *Percent change from same month previous year* | *0.67* | *-20.07* |

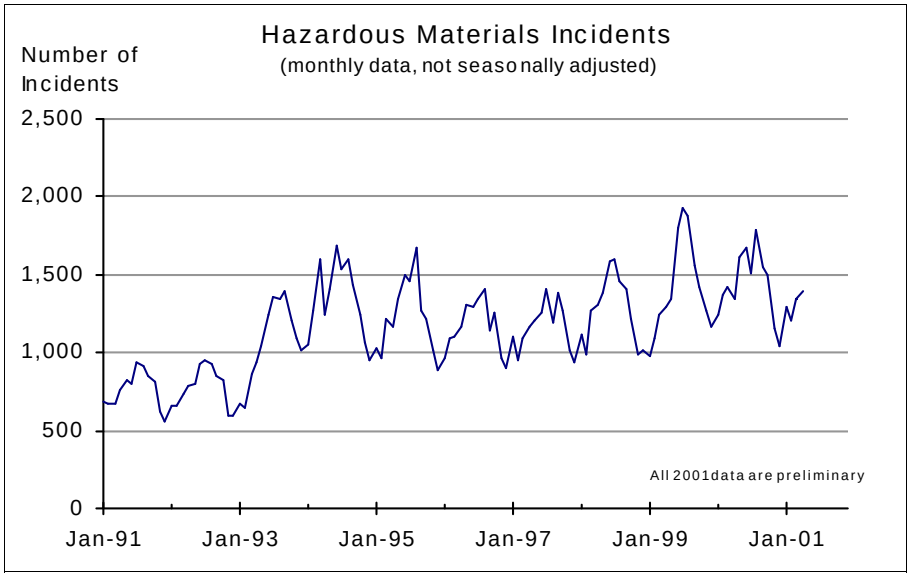
NOTE: The current value is compared to the value from the same period in the previous year to account for seasonality.

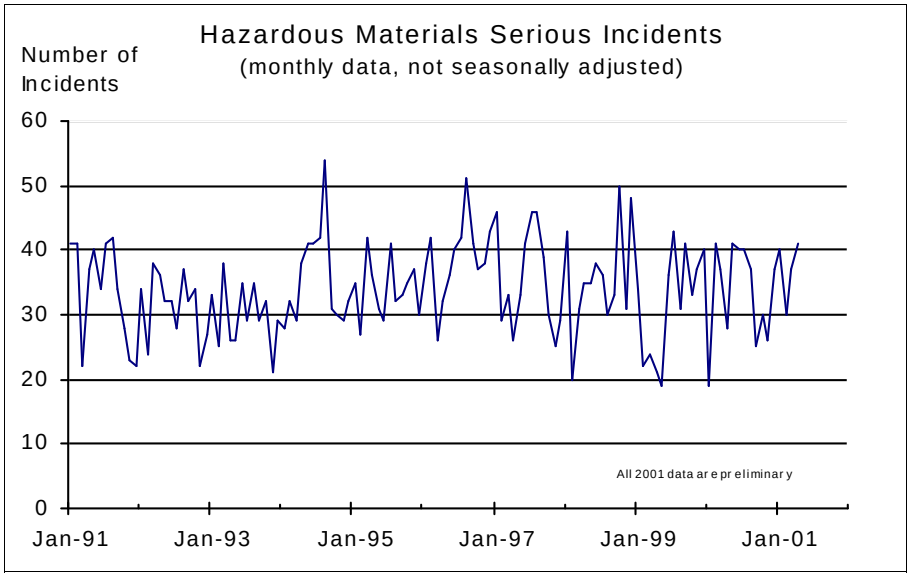
Accidents and incidents differ by the extent, in dollars, of the property damage resulting from the event.

SOURCE: U.S. Department of Transportation, Federal Railroad Administration, Office of Safety, available at: http://safetydata.fra.dot.gov/officeofsafety

Rail accidents and incidents include any collision between railroad on-track equipment and other vehicles or pedestrians at grade crossings; any event involving operation of railroad on-track equipment that results in damages to railroad property; and any event arising from railroad operations that results in death or injury, or, in the case of railroad employees, an occupational illness.

# HAZARDOUS MATERIALS INCIDENTS




| Hazmat Incidents | Apr-00 | Apr-01* |
|---|---|---|
| Total | 1,348 | 1,397 |
| *Percent change from same month previous year* | *3.93* | *3.64* |

| Hazmat Serious Incidents | Apr-00 | Apr-01* |
|---|---|---|
| Total | 28 | 41 |
| *Percent change from same month previous year* | *33.33* | *46.43* |

*Preliminary estimates

NOTES: The current value is compared to the value from the same period in the previous year to account for seasonality.

Incident reporting requirements were extended to intrastate motor carriers on October 1, 1998. Beginning in April 1993, there was sharp improvement in reporting of incidents by small package carriers.

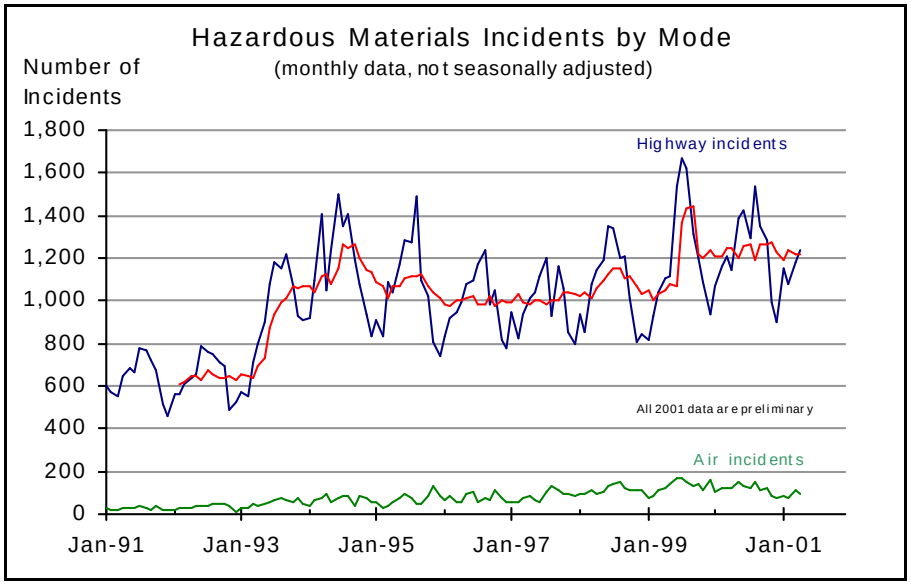
A reported incident is a report of any unintentional release of hazardous material while in transportation (including loading, unloading, and temporary storage). It excludes pipeline and bulk shipments by water, which are reported separately.

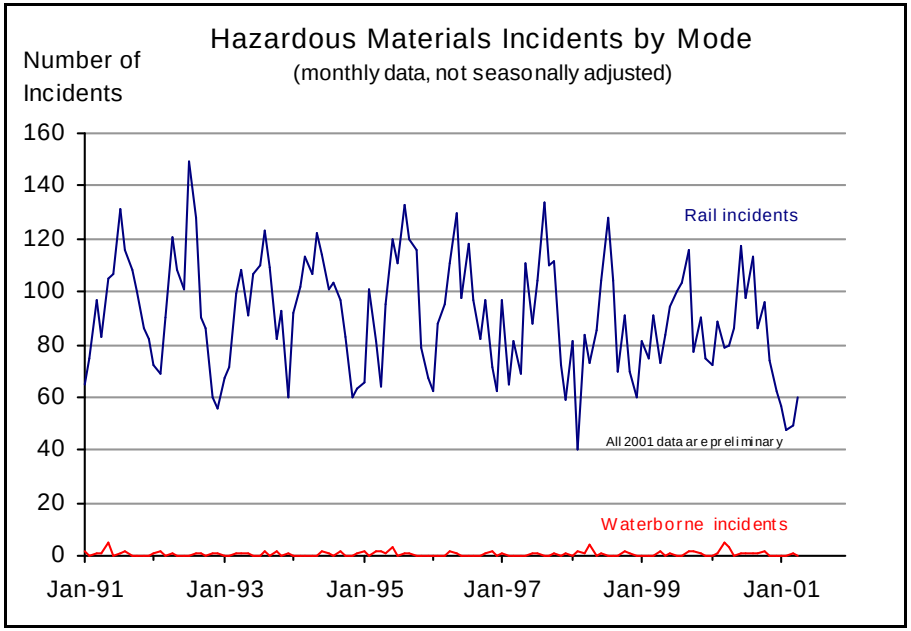
Research and Special Programs Administration (RSPA) defines serious incidents as incidents that involve a fatality or major injury due to a hazardous material, closure of a major transportation artery or facility or evacuation of six or more persons due to the presence of a hazardous material, or a vehicle accident or derailment resulting in the release of a hazardous material.

SOURCE: U. S. Department of Transportation, Research and Special Programs Administration (RSPA), Office of Hazardous Materials, Planning and Analysis, Hazardous Materials Information System data obtained through personal communication.

Flammable liquids (e.g., gasoline) comprise the most tonnage and ton-miles of hazardous material shipments. Gasoline usage peaks in the summer and accounts for the seasonality in hazardous materials incidents.

# MODAL BREAKDOWN OF HAZARDOUS MATERIALS INCIDENTS




| Hazardous Materials Incidents by Mode | Apr-00 | Apr-01 |
|---|---|---|
| Highway | 1,142 | 1,242 |
| *Percent change from same month previous year* | *3.63* | *8.76* |
| Air | 123 | 95 |
| *Percent change from same month previous year* | *2.50* | *-22.76* |
| Rail | 80 | 60 |
| *Percent change from same month previous year* | *9.59* | *-25.00* |
| Waterborne (not including bulk shipments) | 3 | 0 |
| *Percent change from same month previous year* | *50.00* | *-100.00* |

*Preliminary estimates

NOTE: The current value is compared to the value from the same period in the previous year to account for seasonality.

A trendline has been provided for highway incidents. The trend has been calculated through a statistical procedure called Structural Modeling, in which the time series under study is decomposed into seasonal, trend and irregular components. For further information on this statistical procedure, see: S.J. Koopman, et al., Structural Time Series Analyser, Modeller And Predictor (STAMP), London: Timberlake Consultants Ltd. , 2000

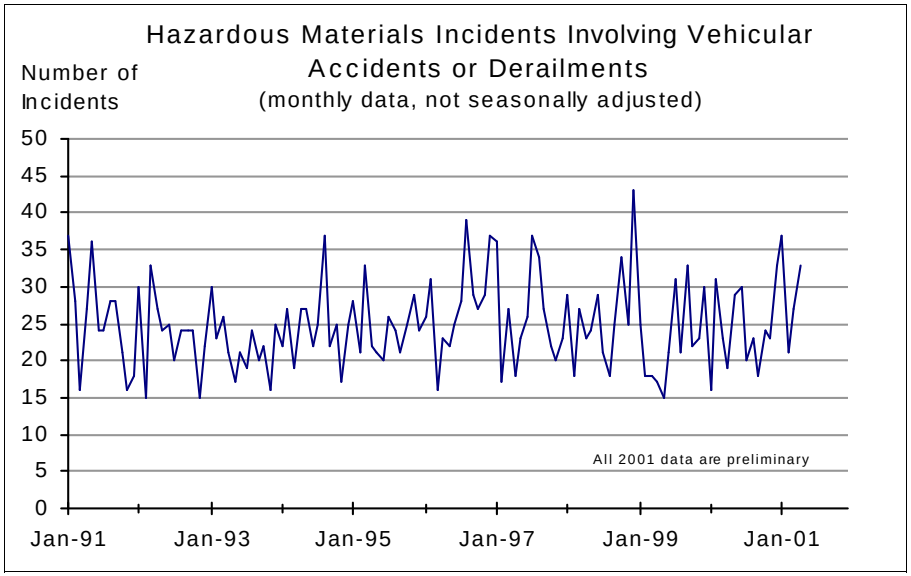
Incident reporting requirements were extended to intrastate motor carriers on October 1, 1998, which may partly explain the subsequent increased volume of reports. Beginning in April 1993, there was sharp improvement in reporting of incidents by small package carriers.

A reported incident is a report of any unintentional release of hazardous material while in transportation (including loading, unloading, and temporary storage). It excludes pipeline and bulk shipments by water, which are reported separately.

SOURCE: U. S. Department of Transportation, Research and Special Program Administration, Office of Hazardous Materials, Planning and Analysis, Hazardous Materials Information System data obtained through personal communication.

Most reported releases of hazardous materials occur on the highways.

# HAZMAT INCIDENTS INVOLVING CRASHES OR TRAIN DERAILMENTS




Motor vehicle accidents or train derailments account for only a small portion of total number of hazardous materials incidents. However, their consequences are often the most severe.

| Hazmat Incidents | Apr-00 | Apr-01* |
|---|---|---|
| Total incidents involving vehicular accidents | 19 | 33 |
| *Percent change from same month previous year* | *11.76* | *73.68* |

*Preliminary estimate

NOTES: The current value is compared to the value from the same period in the previous year to account for seasonality.

Reporting requirements were extended to intrastate motor carriers on October 1, 1998, which may have affected data reported after this date.

Accident/derailment is a crash involving a motor vehicle or a derailment of a train.

SOURCE: U. S. Department of Transportation, Research and Special Program Administration, Office of Hazardous Materials, Planning and Analysis, Hazardous Materials Information System data obtained through personal communication.